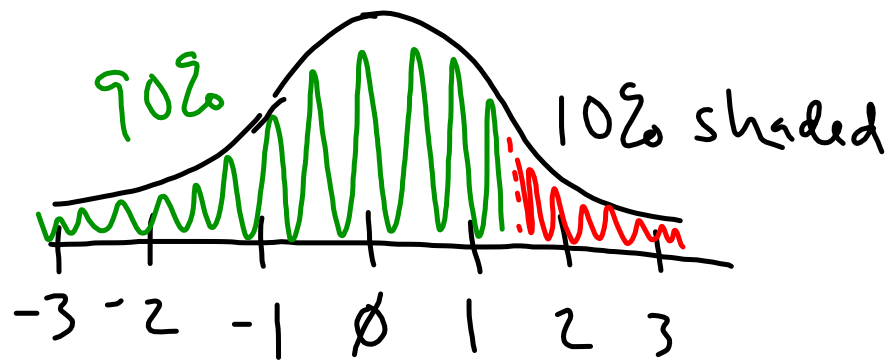


Percentiles to z-Score:



Make the 10% a z-score

2nd VARS \rightarrow 3: invNorm(percentile)

\hookrightarrow measured from
 $-\infty$ to the cut
 line

$$\text{invNorm}(0.9) = 1.28$$

\hookrightarrow this is the z-score
 for the 90th percentile

Normal Practice 2:

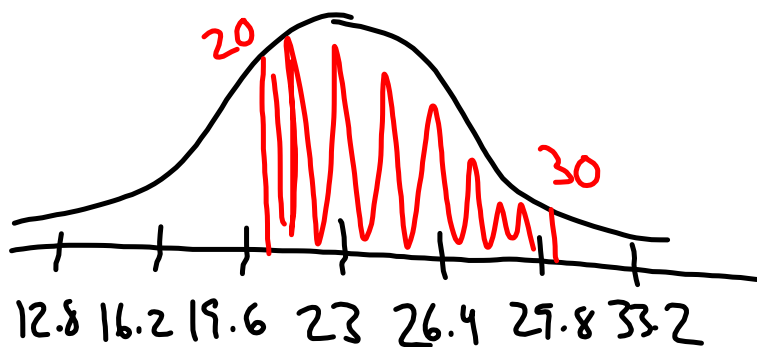
$$2. N(23, 3.4)$$

$$\text{Left} = 20$$

$$\text{Right} = 30$$

$$\text{Left } z = \frac{20 - 23}{3.4} = -0.88$$

$$\text{Right } z = \frac{30 - 23}{3.4} = 2.05$$

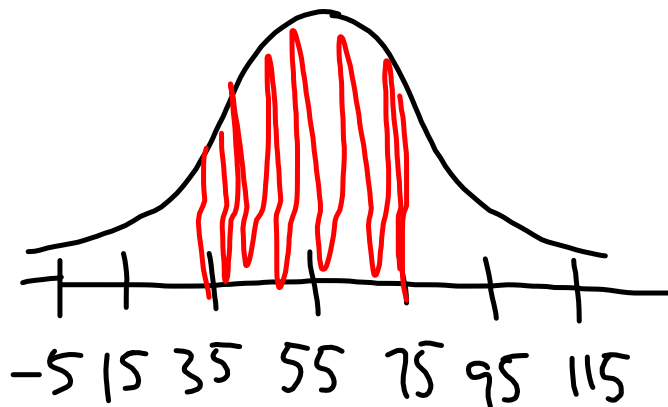


$$\text{normalcdf}(-0.88, 2.05) = 0.79 = 79\%$$

3. Given Percentile = center 68%

Left = 35 Left $z = -1$

Right = 75 Right $z = +1$



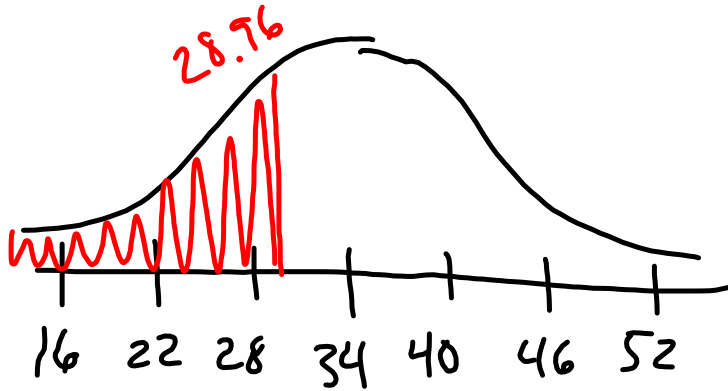
To get mean: $\frac{75+35}{2} = 55$

To get σ : $75 - 55 = 20$

$N(55, 20)$

4. Given $N(34, 6)$

lowest 20%



Left $z = -\infty$

Right $z = \text{invNorm}(0.2) = -0.84$

$$z = \frac{y - \mu}{\sigma}$$

$$y = z\sigma + \mu$$

$$= (-0.84)(6) + 34$$

$$= 28.96$$

Right cutpoint

5. $N(34, 6)$ Highest 5%

Right $z = +\infty$

Right value $= +\infty$

Left $z = \text{invNorm}(0.95) = 1.64$

↳ because calculation goes from left to right

Left value:

$$\begin{aligned} y &= z\sigma + \mu \\ &= (1.64)(6) + 34 \\ &= 43.84 \end{aligned}$$

